

What is claimed is :

1. A reception pointer processing apparatus
for receiving a transmission frame transmitted by an
5 SDH transmission system and for performing pointer
processing to said transmission frame comprising :

a pointer processing section for executing
required pointer processing of each unit frame
contained in said transmission frame ; and

10 a frame composition identification section for
identifying automatically a frame composition of said
transmission frame based on pointer processing result
of said pointer processing section and for providing
such identification result to said pointer processing
15 section.

2. A reception pointer processing apparatus in
an SDH transmission system according to claim 1:

wherein said pointer processing section is
20 composed to perform serially said pointer processing
according to a rate based on a transmission rate of said
transmission frame.

3. A reception pointer processing apparatus
25 for an SDH transmission system according to claim 1:

wherein said frame composition identification
section is composed to perform serially said

identification processing according to a rate based on a transmission rate of said transmission frame.

4. A reception pointer processing apparatus for
5 an SDH transmission system according to claim 1:

wherein said pointer processing section comprises ;

a pointer detection section for detecting
NDF-bit, an SS-bit, a pointer value contained in a
10 pointer byte of said transmission frame ; and

a concatenation detection section for detecting
that said transmission frame is in concatenation state
composed by linkage of a plurality of unit frames when
respective detection results of said pointer detection
15 section satisfy a given condition.

5. A reception pointer processing apparatus for
an SDH transmission system according to claim 4:

wherein said concatenation detection section
20 is composed to detect a state where said NDF-bit
indicates NDF enable, said SS-bit indicates a normal
value and said pointer value indicates all "1" as said
given condition.

25 6. A reception pointer processing apparatus for
an SDH transmission system according to claim 1:

wherein said pointer processing section

comprises a pointer detection section for detecting at least SS-bit contained in a pointer byte of said transmission frame ; and

said pointer detection section is composed to
5 be able to modify said SS-bit detection condition.

7. A reception pointer processing apparatus for an SDH transmission system according to claim 1:

wherein said pointer processing section
10 comprises ;

a pointer detection section for detecting an NDF-bit, an SS-bit and an pointer value contained in a pointer byte of said transmission frame ; and

an invalid pointer detection section for
15 detecting that said pointer byte is an invalid pointer byte, based on respective detection results in said pointer detection section;

in which said invalid pointer detection section is composed to change over a detection condition of a
20 valid pointer byte according to a reception state and a frame composition of said transmission frame, and to detect as said invalid pointer byte such pointer byte not satisfying said detection condition.

25 8. A reception pointer processing apparatus for an SDH transmission system according to claim 7, further comprising a protection section for outputting

an LOP state indication when said invalid pointer byte is detected for a given number of times consecutively in said invalid pointer detection section.

5 9. A reception pointer processing apparatus for an SDH transmission system according to claim 1: wherein said pointer processing section comprises ;

10 a pointer detection section for detecting an NDF-bit, an SS-bit and a pointer value contained in a pointer byte of said transmission frame ; and

15 an AIS detection section for detecting an AIS state indication of said pointer byte, based on respective detection results in said pointer detection section ;

 in which said pointer processing section is composed to be able to output outside an AIS state indication signal as it is, upon the detection of said AIS state indication signal in said AIS detection section.

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 10. A reception pointer processing apparatus for an SDH transmission system according to claim 1: wherein said pointer processing section comprises ;

25 a pointer detection section for detecting an NDF-bit, an SS-bit and a pointer value contained in a pointer byte of said transmission frame ; and

an AIS detection section for detecting an AIS state indication contained in said pointer byte of said transmission frame, based on respective detection results in said pointer detection section ;

5 in which, when said transmission frame includes a leading frame and a dependent frame linked to said leading frame, said pointer processing section is composed to cancel an AIS state of both said leading frame and said dependent frame, upon reception of an
10 NDF enable for said pointer byte of said transmission frame, during AIS state processing receiving said AIS state indication of said transmission frame from said AIS detection section.

15 11. A reception pointer processing apparatus
for an SDH transmission system according to claim 10.
 wherein said pointer processing section is
composed to annul said AIS state indication output from
said AIS detection section, upon the reception of said
20 NDF enable for said pointer byte of said transmission
frame.

12. A reception pointer processing apparatus
for an SDH transmission system according to claim 1:
25 wherein said pointer processing section is
composed to perform compulsorily an AIS state
transition processing, upon receiving a higher order

